

REMARKS

In the Office Action dated August 18, 2004, claims 1-6, 8-15, 17-24 and 26 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 6,160,264 ("Rebiere"). Furthermore, claims 7, 16 and 25 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Rebiere in view of U.S. Patent No. 4,444,204 ("Bryant et al.").

In response, Applicant has canceled claims 3, 4, 14-18, 21 and 22. In addition, Applicant has amended claims 1, 5, 7, 8, 10, 12, 13, 19 and 23-26 to more clearly distinguish the claimed invention from the cited references and/or to maintain proper antecedent basis. Applicant has also added claims 28 and 29, which include subject matter not disclosed in the cited references. In view of the amendments to the claims and the following remarks, Applicant respectfully requests the allowance of the pending claims 1, 2, 5-13, 19, 20 and 23-29.

A. Patentability of Amended Independent Claims 1 and 19

The Office Action has rejected the independent claims 1 and 19 under 35 U.S.C. §102(b) as allegedly being anticipated by Rebiere. As amended, the independent claim 1 recites:

"A system for measuring a three-dimensional object, said system comprising:
a base;

elongate measuring members operatively connected to said base such that said elongate measuring members can be displaced with respect to said base in response to a surface of said three-dimensional object, said elongate measuring members including displacement information embedded in said elongate measuring members along the lengths of said elongate measuring members; and

means for determining displaced distances of said elongate measuring members due to said surface of said three-dimensional object, said displaced distances of said elongate measuring members being measurements of said surface of said three-dimensional object, said determining means being configured to optically use said displacement information of said elongate measuring members at displaced locations along the lengths of said elongate measuring members to determine said displaced distances."

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.

Verdegaal Bros. v. Union Oil Co. of California, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP §2131. In addition, to establish a *prima facie* case of obviousness, “the prior art reference (or references when combined) must teach or suggest all of the claim limitations.” MPEP §2143.

The cited references of Rebiere and Bryant et al. do not disclose elongate measuring members that include “displacement information embedded in said elongate measuring members along the lengths of said elongate measuring members” and determining means that is “configured to optically use said displacement information of said elongate measuring members at displaced locations along the lengths of said elongate measuring members to determine said displaced distances,” as recited in the amended claim 1. The rods 3 disclosed in Rebiere and the elongate members 31 disclosed in Bryant et al. do not include any displacement information **along their lengths**, as recited in the amended claim 1. Each of the elongate members 31 disclosed in Bryant et al. does include an identifying mark, such as a number. However, this identifying mark is not “displacement information embedded in said elongate measuring members **along the lengths of said elongate measuring members**” (emphasis added), as recited in the amended claim 1.

Furthermore, neither reference discloses determining means that is “configured to optically use said displacement information of said elongate measuring members at displaced locations along the lengths of said elongate measuring members to determine said displaced distances,” as recited in the amended claim 1. Rebiere does disclose different optical sensors 50 (Fig. 4), CN (Fig. 6A) and D_{xy} (Figs. 7A and 7B). However, since these optical sensors of Rebiere use reflected light off ends 301 of the rods 3, Rebiere do not disclose determining means that is “configured to optically use said displacement information of said elongate measuring members at displaced locations along the lengths of said elongate measuring members to determine said displaced distances,” as recited in the amended claim 1.

Since the cited references of Rebiere and Bryant et al. do not disclose the elongate measuring members and the determining means, as recited in the amended claim 1, Applicant respectfully asserts that the amended independent claim 1 is

neither anticipated by Rebiere nor obvious over Rebiere in view of Bryant et al., and should consequently be allowed.

The above remarks are also applicable to the amended independent claim 19, which is a method claim with similar limitations. Therefore, the amended independent claim 19 is also neither anticipated by Rebiere nor obvious over Rebiere in view of Bryant et al., and should be allowed.

B. Patentability of Amended Independent Claim 10

The Office Action has rejected the independent claim 10 under 35 U.S.C. §102(b) as allegedly being anticipated by Rebiere. As amended, the independent claim 10 recites:

“A system for measuring a three-dimensional object, said system comprising:
a base;
elongate measuring members operatively connected to said base such that said elongate measuring members can be displaced with respect to said base in response to a surface of said three-dimensional object; and
a displacement-determining mechanism operatively coupled to said elongate measuring members, said displacement-determining mechanism being configured to track movements of said elongate measuring members to determine displaced distances of said elongate measuring members due to said surface of said three-dimensional object, said displaced distances of said elongate measuring members being measurements of said surface of said three-dimensional object.”

The cited references of Rebiere and Bryant et al. do not disclose a displacement-determining mechanism that is “configured to track movements of said elongate measuring members to determine displaced distances of said elongate measuring members due to said surface of said three-dimensional object,” as recited in the amended claim 10. The optical sensors disclosed in Rebiere are not used to track movements of the rods 3. Thus, Rebiere does not disclose the displacement-determining mechanism of the amended claim 10. As such, Applicant respectfully asserts that the amended independent claim 10 is neither anticipated by Rebiere nor obvious over Rebiere in view of Bryant et al., and should consequently be allowed.

C. Patentability of Dependent Claim 2, 5-9, 11-13, 20 and 23-29

Each of the dependent claims 2, 5-9, 11-13, 20 and 23-29 depends on one of the independent claims 1, 10 and 19. As such, these dependent claims include all the limitations of their respective base claims. Therefore, Applicant submits that these dependent claims are allowable for at least the same reasons as their respective base claims.

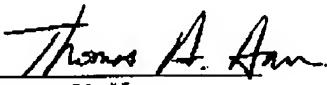
In addition, at least some of the dependent claims recite limitations that are not disclosed in the cited references of Rebriere and Bryant et al., which further supports the allowance of these claims. As an example, the limitation of "wherein said elongate measuring members have reflectivity that varies along the lengths of said elongate measuring members," as recited in the dependent claim 6, is not disclosed in the cited references. Thus, the limitation of "measuring light reflected off said displaced locations along the lengths of said displaceable measuring members," as recited in the dependent claim 24, is also not disclosed in the cited references. As another example, the limitation of "wherein said displacement information embedded in said elongate measuring members includes different codes along the length of each of said elongate measuring members," as recited in the dependent claim 7, is not disclosed in the cited references. Thus, the limitation of "reading codes on said displaceable measuring members at said displaced locations along the lengths of said displaceable measuring members," as recited in the dependent claim 25, is also not disclosed in the cited references. As another example, the limitation of "wherein said elongate measuring members have transmissivity that varies along the lengths of said elongate measuring members," as recited in the dependent claim 8, is not disclosed in the cited references. Thus, the limitations of "projecting lights into said displaceable measuring members at said displaced locations along the lengths of said displaceable measuring members and capturing an image of light-emitting ends of said displaceable measuring members," as recited in the dependent claim 26, are not disclosed in the cited references.

Applicant respectfully requests reconsideration of the claims in view of the claim amendments and the remarks made herein. A notice of allowance is earnestly solicited.

Respectfully submitted,

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